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52

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,930	03/03/2004	Chih-Wei Hsu	24061.49	4132

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EXAMINER

KOSOWSKI, ALEXANDER J

ART UNIT PAPER NUMBER

2125

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

112

Office Action Summary

Application No.

10/791,930

Applicant(s)

HSU ET AL.

Examiner

Alexander J Kosowski

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/16/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

- 1) Claims 1-20 are presented for examination.

Allowable Subject Matter

- 2) Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

- 3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- 4) Claims 1-4, 6-9, 11-13 and 17-20 are rejected under 35 U.S.C. 102(e) as being unpatentable by Allen et al (U.S. Pat 6,766,285).

Referring to claim 1, Allen teaches a method comprising: comparing a product contributive attribute and an operation acceptance attribute prior to performing an operation on a product and determining whether the comparison indicates that the product is not compatible with the operation (col. 4 lines 3-49); performing the operation if the product and operation are compatible (col. 5 lines 16-28); and suspending the operation if the product and operation are not compatible (col. 5 lines 29-42).

Referring to claim 2, Allen teaches the method of claim 1 further comprising identifying a correspondence between the product contributive attribute and the operation acceptance

Art Unit: 2125

attribute, wherein the suspension of the operation is in response to the identification of the correspondence between the product contributive attribute and the operation acceptance attribute (col. 5 lines 29-42, whereby a negative response indicates a correspondence and triggers available commands).

Referring to claim 3, Allen teaches the method of claim 1 wherein comparing the product contributive attribute and the operation acceptance attribute identifies no correspondence (col. 5 lines 16-28, whereby a successful response indicates no correspondence).

Referring to claim 4, Allen teaches the method of claim 1 wherein the product contributive attribute provides information about a prior operation encountered by the product (col. 4 lines 34-39).

Referring to claim 6, Allen teaches the method of claim 1 wherein the product is also associated with at least one product routing attribute, and wherein the operation is associated with at least one operation contributive attribute, the method further comprising comparing the product routing attribute and the operation contributive attribute (col. 4 lines 3-49).

Referring to claim 7, Allen teaches the method of claim 6 further comprising identifying a correspondence between the product routing attribute and the operation contributive attribute, wherein suspending the operation is in response to the identification of the correspondence between the product routing attribute and the operation contributive attribute (col. 5 lines 29-42, whereby a negative response indicates a correspondence and triggers available commands).

Referring to claim 8, Allen teaches the method of claim 6 wherein comparing the product routing attribute and the operation contributive attribute identifies no correspondence (col. 5 lines 16-28, whereby a successful response indicates no correspondence).

Referring to claim 9, Allen teaches the method of claim 1 further comprising: performing an intermediate operation; and altering a product attribute file associated with the product in response to performing the intermediate operation, wherein the suspension of the operation is responsive to the altered product attribute file (col. 4 lines 29-49, whereby a first process may be performed and the results linked to the suspension of the second process).

Referring to claim 11, Allen teaches the method of claim 1 wherein the product is associated with an identifier and wherein the operation retrieves the product contributive attribute based on the identifier (col. 4 lines 29-49, whereby a first process may be performed and the product becomes associated with the initial results).

Referring to claim 12, Allen teaches a method comprising determining if a substrate contributive attribute corresponds to an operation acceptance attribute and if the substrate contributive attribute corresponds to the operation acceptance attribute, determining if the operation acceptance attribute restricts the substrate contributive attribute (col. 4 lines 3-49); and if the operation acceptance attribute restricts the substrate contributive attribute, suspending the operation with respect to the substrate (col. 5 lines 16-42).

Referring to claim 13, Allen teaches the method of claim 12 further comprising: if the substrate contributive attribute does not correspond to the operation acceptance attribute, determining if a correspondence is required to perform the operation, and if a correspondence is required, suspending the operation with respect to the substrate (col. 4 lines 3-15, whereby a correspondence requirement is associated with a correct setup).

Referring to claim 17, Allen teaches the method of claim 12 further comprising: assigning a substrate attribute file to the substrate, wherein the substrate attribute file includes at

Art Unit: 2125

least one of the substrate contributive attribute and the substrate routing attribute, performing the operation, and updating the substrate attribute file using the operation contributive attribute after performing the operation (col. 4 lines 29-49).

Referring to claim 18, Allen teaches the method of claim 12 further comprising setting a flag to indicate that validation is needed for at least one of the substrate contributive attribute and the operation acceptance attribute (col. 4 lines 55-61, whereby a signal may comprise setting some form of flag).

Referring to claim 19, Allen teaches a system for preventing contamination during semiconductor manufacturing, the system comprising an attribute file associated with a product, wherein the attribute file includes at least one of a product contributive attribute and a product routing attribute and an operation file associated with an operation, wherein the operation file includes at least one of an operation contributive attribute and an operation acceptance attribute (col. 4 lines 3-49); compatibility check means to determine if the product is compatible with the operation based on a comparison of the product contributive or product routing attribute with the operation contributive or operation acceptance attribute (col. 4 lines 29-49), and hold means for placing the operation on hold with respect to the product if the compatibility check determines the product is not compatible with the operation (col. 5 lines 29-42).

Referring to claim 20, Allen teaches the system of claim 19 wherein the product is a substrate and wherein the operation is a semiconductor processing operation (col. 1 lines 15-29).

Claim Rejections - 35 USC § 103

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2125

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6) Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen, further in view of Yasuda (U.S. Pat 6,567,716).

Referring to claims 5 and 10, Allen teaches the above. However, Allen does not explicitly teach that the operation acceptance attribute identifies contaminants unacceptable to the operation, nor that the at least one product contributive attribute indicates a metal.

Yasuda teaches a semiconductor processing system which teaches the dangers of contamination and also that contaminants may be metals (col. 1 line 28 through col. 2 line 37).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to include operation acceptance attributes identifying contaminants and to include product contributive attributes indicating a metal in the method taught by Allen since typical contaminants producing insulation-deteriorated portions of semiconductors are metals (Yasuda, col. 2 lines 28-30) and since contamination is a major factor responsible for deterioration in the quality and yield of semiconductor devices (Yasuda, col. 1 lines 27-30).

Conclusion

7) The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Martin (U.S. Pat 6,418,351) – teaches determining the capacity of tools.

Walker (U.S. Pat 5,963,911) – teaches the use of resource allocation.

Ward (U.S. PGPUB 2003/0029383) – teaches dynamic control of wafer processing paths.

Art Unit: 2125

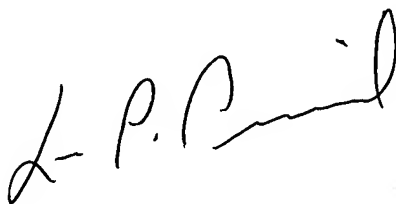
8) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 571-272-3744.

The examiner can normally be reached on Monday through Friday, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. In addition, the examiner's RightFAX number is 571-273-3744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Alexander J. Kosowski
Patent Examiner
Art Unit 2125

A handwritten signature in black ink, appearing to read "L. Picard", with a stylized flourish at the end.

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100